

The following Listing of Claims replaces all prior listings, and versions, of claims in the subject patent application.

Listing of Claims:

1 (currently amended): Method for the sterilization of packaging containers, comprising the steps of generating a heated disinfectant by simultaneously and separately leading a liquid disinfectant and steam to a mixing nozzle, forming a mixture of atomized or evaporated disinfectant and steam by the mixing nozzle, aiming the mixed jet of heated disinfectant which exits from the mixing nozzle in a free flow directly onto a packaging container, and removing the heated disinfectant after it has acted on the surface of the packing container to be sterilized.

2 (previously presented): Method according to Claim 1, wherein the mixing ratio between the liquid disinfectant and the steam is approximately 2:1.

3 (previously presented): Method according to Claim 1, wherein the steam which is led into the mixing nozzle is at a pressure of approximately 2 bar and at a temperature of approximately 121°C.

4 (previously presented): Method according to Claim 1, wherein the disinfectant which is led into the mixing nozzle is at room temperature.

5 (previously presented): Method according to Claim 1, and the step of having the packaging containers at room temperature before they are exposed to the mixed jet exiting from the mixing nozzle.

6 (previously presented): Method according to Claim 1, and the step of forming the disinfectant which is led into the mixing nozzle to consist of an aqueous solution of H₂O₂ and peracetic acid.

7 (previously presented): Method according to Claim 1, and wherein the spraying time of the mixing nozzle per packaging container is from approximately one to two seconds.

8 (previously presented): Method according to Claim 1, and wherein the time of action of the disinfectant-steam mist which condenses on the packaging container is approximately five to ten seconds.

9 (previously presented): Method according to Claim 1, and, before the removal of the condensate which has condensed on the packaging container, rinsing the packaging container with a liquid disinfectant.

10 (previously presented): Method according to Claim 1, and the step of holding the bottle and the mixing nozzle associated with it immobile with respect to each other while the disinfectant-steam mixture is blown onto the bottle.

11 (previously presented): Method according to Claim 1, and the step of continuously moving the bottle and the associated mixing nozzle together in a translation motion while the disinfectant-stream is blown onto the bottle.

12 (previously presented): Method according to Claim 1, and the step of blowing the mixed jet directly through the mixing nozzle into the interior of the packaging container.

13 (previously presented): Device for sterilization of packaging containers having a conveyor for moving the packaging container to be sterilized, comprising in combination: at least one mixing nozzle (2) aimed directly onto the packaging containers (1) transported by the conveyor (11), said mixing nozzle (2) being connected by simultaneously opening control valves (20, 21) to a steam generator (24) and to a reservoir (26) for a liquid disinfectant (3).

14 (previously presented): Device according to Claim 13, wherein said mixing nozzle (2) is designed as a two-component atomization nozzle.

15 (previously presented): Device according to Claim 13, wherein said mixing nozzle (2) is aimed toward the mouth opening of a packaging container (1).

16 (previously presented): Device according to Claim 13, wherein the conveyor (11) transports the packaging container (1) in an upright position and in a horizontal direction, and said mixing nozzle (2) is directed vertically downward onto the packaging container (1).

17 (previously presented): Device according to Claim 13, wherein the conveyor (11) can be driven continuously and several said mixing nozzles (2) are provided which move with the conveyor (11).

18 (previously presented): Device according to Claim 13, wherein the conveyor (11) is designed as a rotor which carries several holders (13) for the packaging containers (1) on the circumference and several said mixing nozzles (2) are associated with the conveyor (11), with at least one said mixing nozzle above each said holder (13).

19 (previously presented): Device according to Claim 13, wherein said control valves (20, 21) which are associated with each said mixing nozzle (2) are arranged on the conveyor (11) and connected with intercalation of a rotating distributor (27) and by lines (22, 23) to said steam generator (24) and said reservoir (26).

20 (previously presented): Method according to Claim 6, and forming the disinfectant to include a surfactant.

21 (previously presented): Method according to Claim 12, and wherein the mixed jet is blown directly into the interior of the packaging container through its mouth opening.